

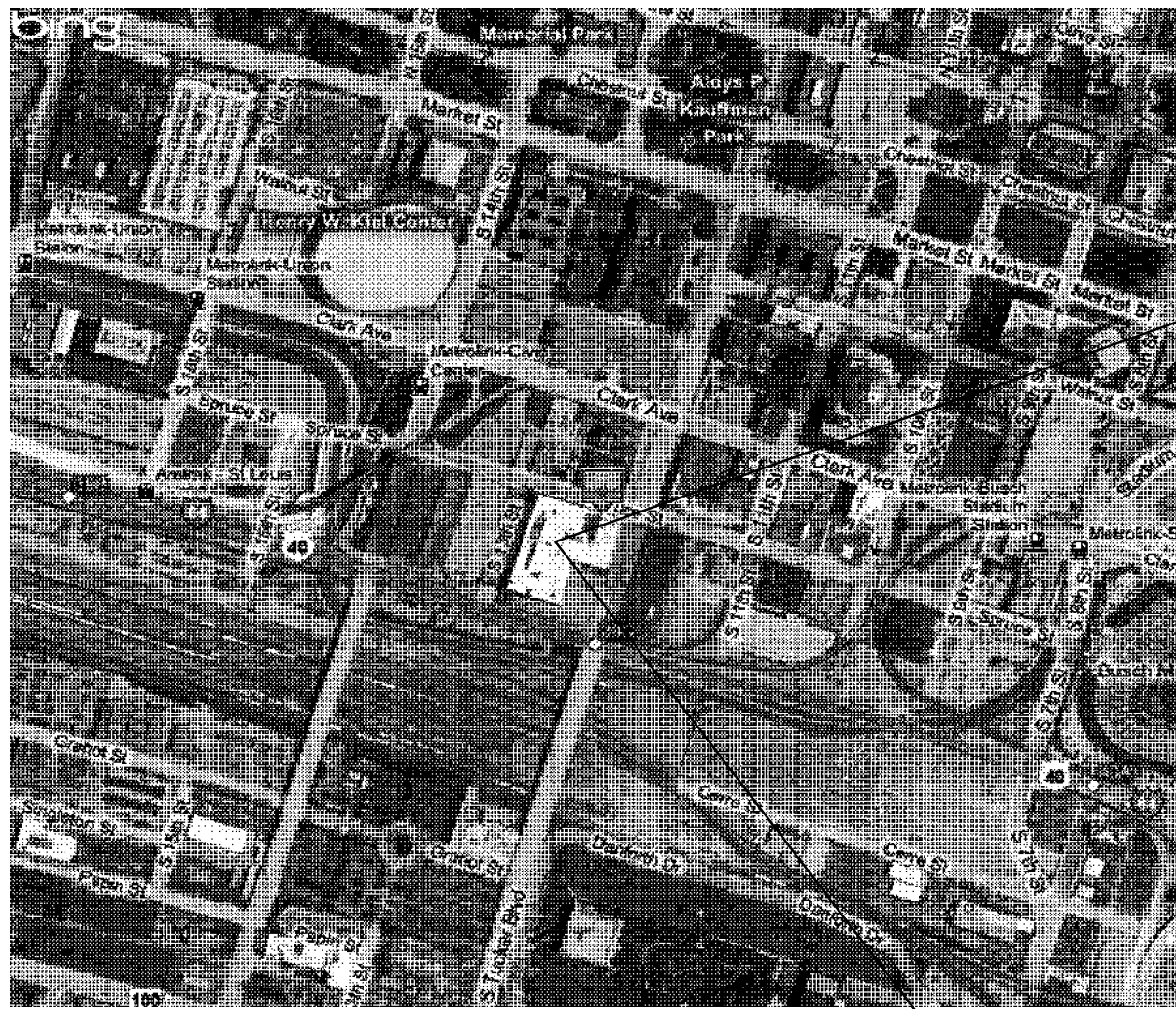


GSA PROJECT NUMBER: IMO00090
BUILDING NUMBER: MO0601AF

RAY ARRA MECHANICAL WIND / PV PACKAGE

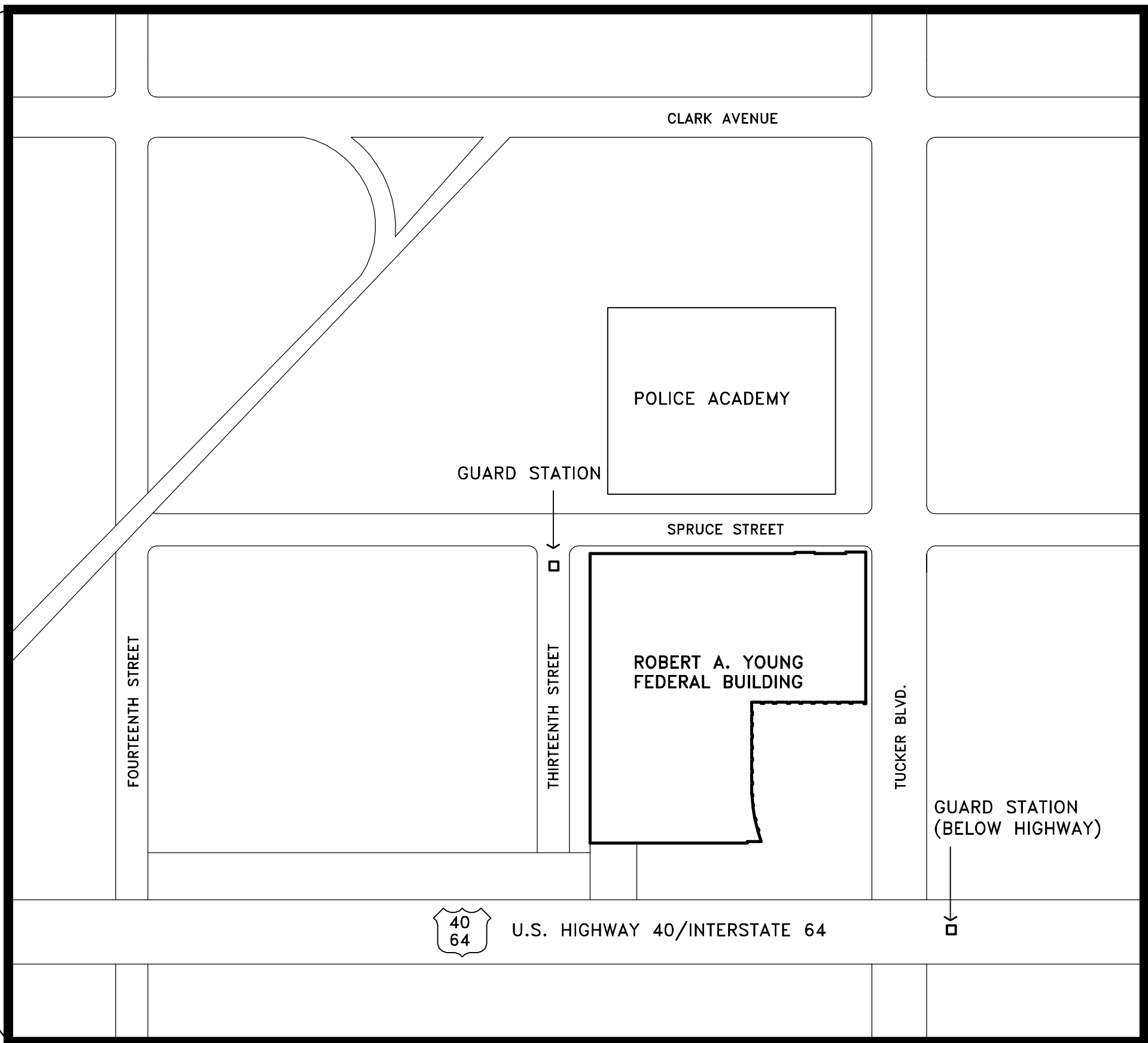
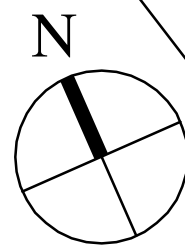
ROBERT A. YOUNG FEDERAL BUILDING
1222 SPRUCE STREET
ST. LOUIS, MO 63103

LOCATION MAP



**Team
Four**
Architecture

14 North Newstead Avenue
Saint Louis, Missouri 63108
314.533.2200 phone
314.533.2203 fax



DRAWING INDEX - WIND / PV PACKAGE ONLY

- G-001 COVER SHEET
- G-002 ENGINEERING SYMBOL SHEET
- EP-101 ELECTRICAL POWER ELEVENTH FLOOR AND ROOF PLAN
- EP-102 ELECTRICAL POWER PENTHOUSE ROOF PLAN
- EP-601 WIND/PV SYSTEM ELECTRICAL ONE-LINE DIAGRAM

		GENERAL SERVICES ADMINISTRATION Heartland Region Public Building Service 1500 East Bannister Road Kansas City, Missouri 64131-3088		
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CERTIFICATIONS				
KEY PLAN				
REVISION NOTES	MARK	DATE	DESCRIPTION	
GRAPHIC SCALE				
CONTRACTORS	A/E CON. NO.	GS06P04GYD0003		
	A/E TASK NO.	67 MODIFICATION NO. 3		
	CONS. CONTR.			
	CONS. WORK			
	PRIME A/E	TEAM FOUR ARCHITECTS, INC.		
	SUB A/E			
	CONSTR. CON.			
	BUILDING	NAME	ROBERT A. YOUNG FED. BLDG.	
		STREET	1222 SPRUCE STREET	
		CITY/ST./ZIP	ST. LOUIS, MO 63103	
BUILDING NO.		MO0106ZZ		
OTHER BUILDING NOS.				
PROJECT	FACILITY CODE			
	PROJECT TITLE	RAY ARRA MECHANICAL		
	PROJECT DESCRIPTION	WIND / PV PACKAGE		
	PROJECT NO.	IMO00090		
	GSA PM	DENISE RYERKERR		
	SUBMISSION	SECOND SUB. 35% COMPLETE		
	SUB. DATE	4/26/2010		
	DRAWING	DRAWING TITLE	COVER SHEET	
		FILE NAME	G-0001-IMO00090	
		FLOOR NO.	NA	
DRAWN BY		JAK DATE DRAFTED: 4/22/10		
CHECKED BY	ARH SHEET SIZE: 30 X 42			
DRAWING NO.	G 0 01			
	DISCIPLINE	SHEET TYPE	SEQUENCE	
	SHEET	1 OF	5	

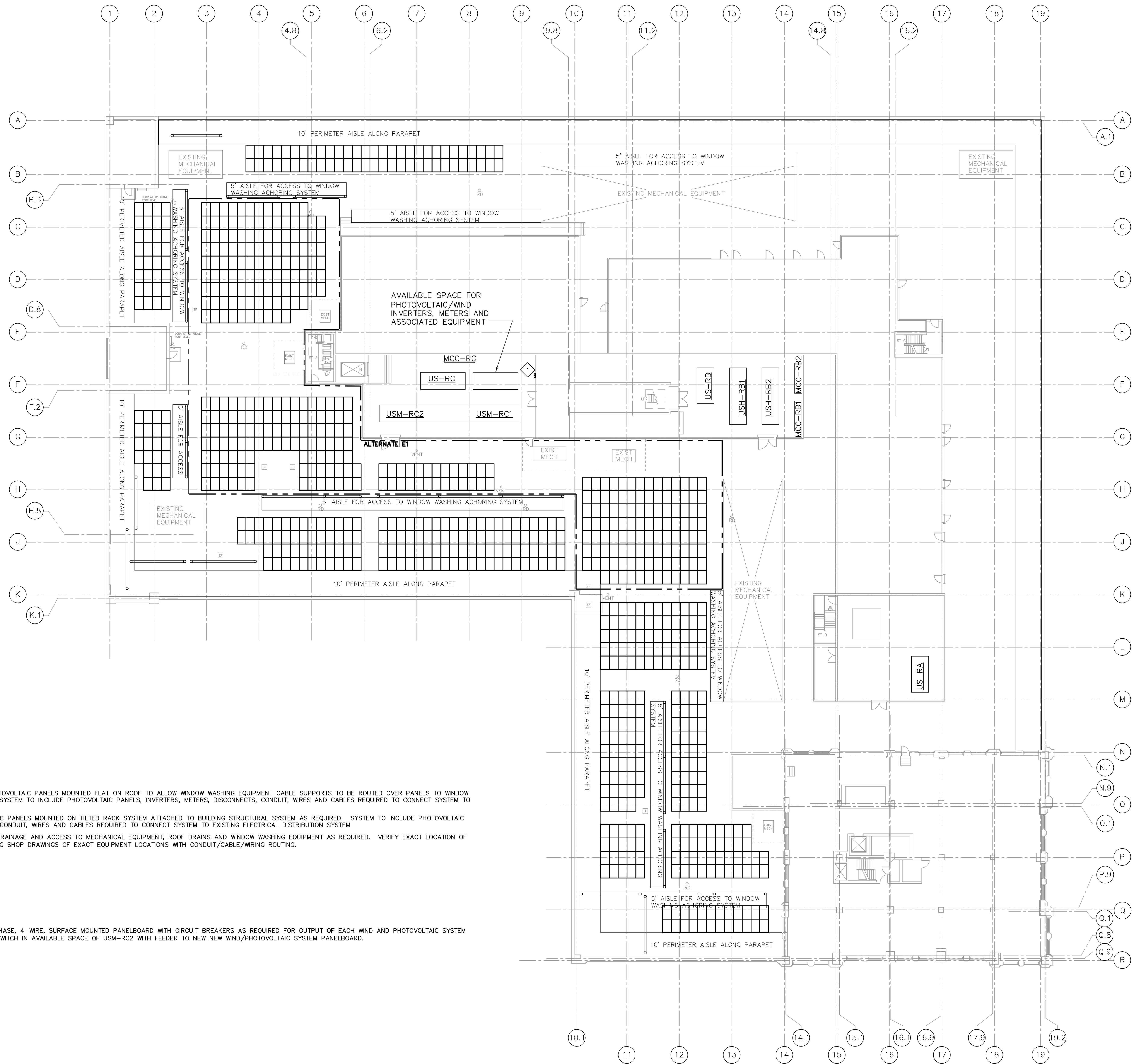
JOB NO. 0811105 DRAWING NAME 15 AUTO 0811105 WIND/PV ELECTRICAL-EP-101-MOD00000.DWG
DESIGNED BY XXX
DRAWN BY JAK
DOT DATE/TIME 4/22/2010 4:58 PM
PLOT DATE/TIME 4/22/2010 5:11 PM

GENERAL NOTES:

- BASE BID TO INCLUDE SELF BALLASTED PHOTOVOLTAIC PANELS MOUNTED FLAT ON ROOF TO ALLOW WINDOW WASHING EQUIPMENT CABLE SUPPORTS TO BE ROUTED OVER PANELS TO WINDOW WASHING ANCHORING SYSTEM AS REQUIRED. SYSTEM TO INCLUDE PHOTOVOLTAIC PANELS, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM
- ALTERNATE BID E1 TO INCLUDE PHOTOVOLTAIC PANELS MOUNTED ON TILTED RACK SYSTEM ATTACHED TO BUILDING STRUCTURAL SYSTEM AS REQUIRED. SYSTEM TO INCLUDE PHOTOVOLTAIC PANELS, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM
- PANELS TO BE INSTALLED TO ALLOW ROOF DRAINAGE AND ACCESS TO MECHANICAL EQUIPMENT, ROOF DRAINS AND WINDOW WASHING EQUIPMENT AS REQUIRED. VERIFY EXACT LOCATION OF ALL ROOF COMPONENTS PRIOR TO SUBMITTING SHOP DRAWINGS OF EXACT EQUIPMENT LOCATIONS WITH CONDUIT/CABLE/WIRING ROUTING.

KEYED NOTES:

- 1 PROVIDE 400-AMPERE, 277/480-VOLT, 3-PHASE, 4-WIRE, SURFACE MOUNTED PANELBOARD WITH CIRCUIT BREAKERS AS REQUIRED FOR OUTPUT OF EACH WIND AND PHOTOVOLTAIC SYSTEM INVERTER. PROVIDE 400-AMPERE FUSIBLE SWITCH IN AVAILABLE SPACE OF USM-RC2 WITH FEEDER TO NEW NEW WIND/PHOTOVOLTAIC SYSTEM PANELBOARD.



1 ELEVENTH FLOOR AND ROOF PLAN
SCALE: 1/16" = 1'-0"

GENERAL SERVICES ADMINISTRATION
Hearland Region
Public Building Service
1500 East Bannister Road
Kansas City, Missouri 64131-3088

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CERTIFICATIONS

KEY PLAN

REVISION NOTES

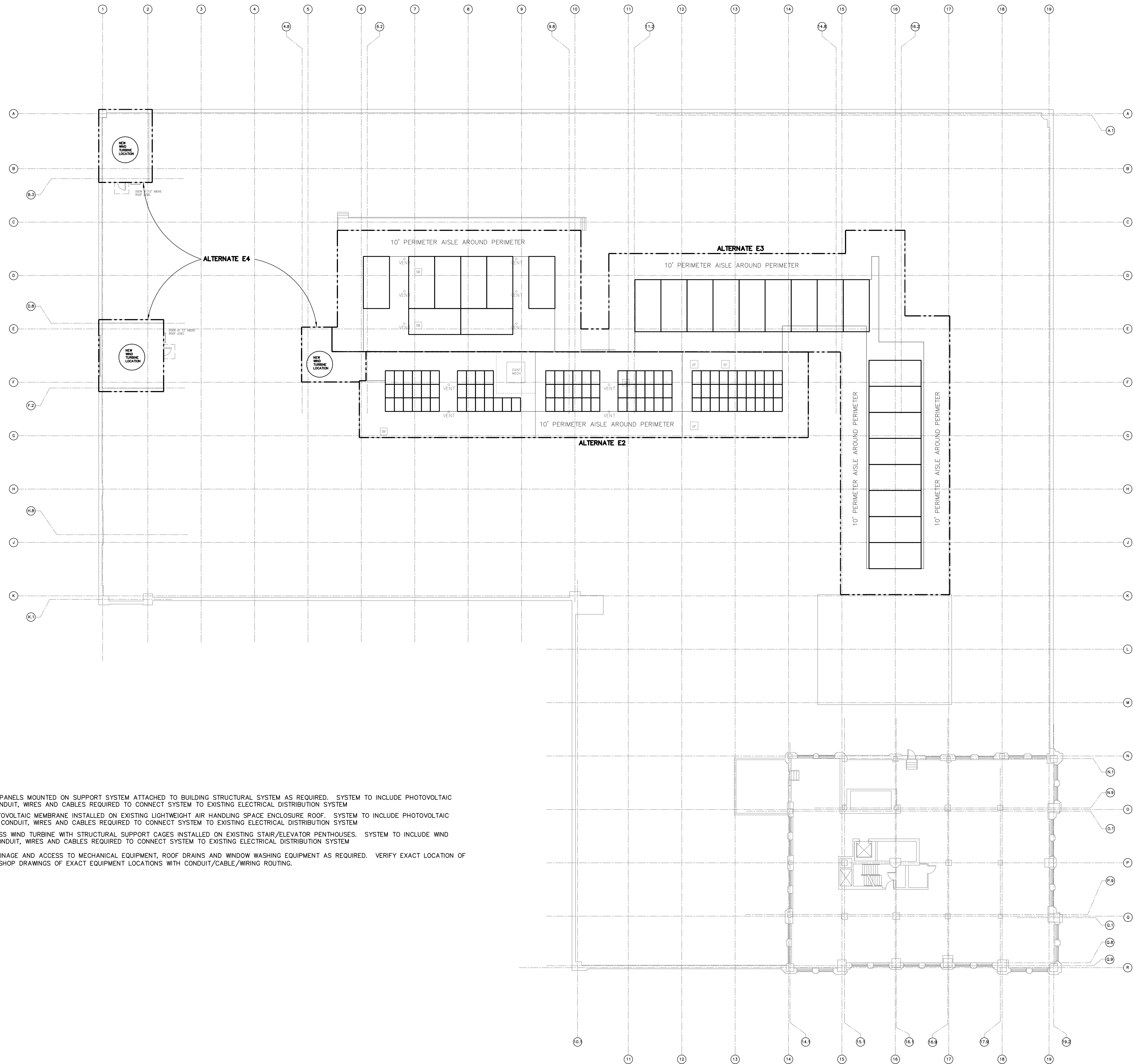
GRAPHIC SCALE

CONTRACT NO.	GS06P04GYD0003
A/E TASK NO.	67 MODIFICATION NO. 3
CONS. CONTR.	
CONS. WORK	
PRIME A/E	TEAM FOUR ARCHITECTS, INC.
SUB A/E	
CONSTR. CON.	
NAME	ROBERT A. YOUNG FED. BLDG.
STREET	1222 SPRUCE STREET
CITY/ST./ZIP	ST. LOUIS, MO 63103
BUILDING NO.	M00106ZZ
OTHER	
BUILDING NOS.	
FACILITY CODE	
PROJECT TITLE	RAY ARRA MECHANICAL
PROJECT DESCRIPTION	WIND / PV PACKAGE
PROJECT NO.	IM000090
GSA PM	DENISE RYERKERR
SUBMISSION	SECOND SUB. 35% COMPLETE
SUB. DATE	4/26/2010
DRAWING TITLE	ELECTRICAL POWER
FILE NAME	EP-101-IM000090
FLOOR NO.	ELEVENTH & ROOF
DRAWN BY	JAK DATE DRAFTED: 4/22/10
CHECKED BY	ARE SHEET SIZE: 30 X 42
DRAWING NO.	EP 1 01
DISCIPLINE	SHEET TYPE SEQUENCE
SHEET	3 OF 5

FOR NO. 0811.05 3. AUTO. 0811.05 WINDPVELECEP-102-MOD00000.DWG
DESIGNED BY XXX
DRAWN BY JAK
DOT DATE/TIME 4/22/2010 4:59 PM
PLOT DATE/TIME 4/22/2010 5:12 PM

GENERAL NOTES:

- ALTERNATE BID E2 TO INCLUDE PHOTOVOLTAIC PANELS MOUNTED ON SUPPORT SYSTEM ATTACHED TO BUILDING STRUCTURAL SYSTEM AS REQUIRED. SYSTEM TO INCLUDE PHOTOVOLTAIC PANELS, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM.
- ALTERNATE BID E3 TO INCLUDE THIN FILM PHOTOVOLTAIC MEMBRANE INSTALLED ON EXISTING LIGHTWEIGHT AIR HANDLING SPACE ENCLOSURE ROOF. SYSTEM TO INCLUDE PHOTOVOLTAIC MEMBRANE, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM.
- ALTERNATE BID E4 TO INCLUDE VERTICAL ACCESS WIND TURBINE WITH STRUCTURAL SUPPORT CAGES INSTALLED ON EXISTING STAIR/ELEVATOR PENTHOUSES. SYSTEM TO INCLUDE WIND TURBINE, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM.
- PANELS TO BE INSTALLED TO ALLOW ROOF DRAINAGE AND ACCESS TO MECHANICAL EQUIPMENT, ROOF DRAINS AND WINDOW WASHING EQUIPMENT AS REQUIRED. VERIFY EXACT LOCATION OF ALL ROOF COMPONENTS PRIOR TO SUBMITTING SHOP DRAWINGS OF EXACT EQUIPMENT LOCATIONS WITH CONDUIT/CABLE/WIRING ROUTING.



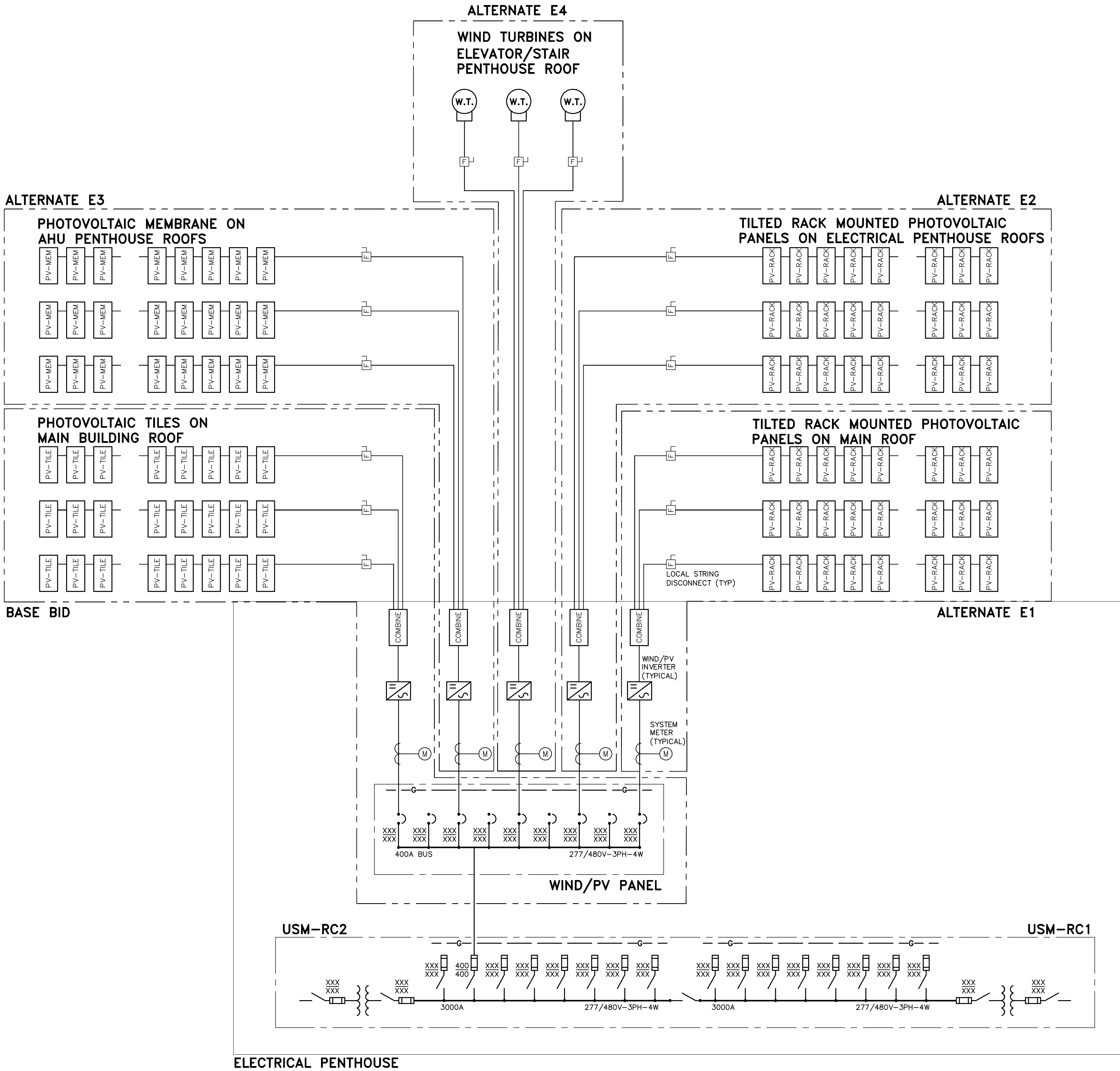
1 PENTHOUSE ROOF PLAN
SCALE: 1/16" = 1'-0"

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CERTIFICATIONS	
KEY PLAN	
REVISION NOTES	
GRAPHIC SCALE	
CONTRACT INFORMATION	
BUILDING INFORMATION	
PROJECT INFORMATION	
DRAWING INFORMATION	

A/E CON. NO.	GS06P04GYD0003
A/E TASK NO.	67 MODIFICATION NO. 3
CONS. CONTR.	
CONS. WORK	
PRIME A/E	TEAM FOUR ARCHITECTS, INC.
SUB A/E	
CONSTR. CON.	
NAME	ROBERT A. YOUNG FED. BLDG.
STREET	1222 SPRUCE STREET
CITY/ST./ZIP	ST. LOUIS, MO 63103
BUILDING NO.	MO0106ZZ
OTHER	
BUILDING NOS.	
FACILITY CODE	
PROJECT TITLE	RAY ARRA MECHANICAL
PROJECT DESCRIPTION	WIND / PV PACKAGE
PROJECT NO.	IM000090
GSA PM	DENISE RYERKERR
SUBMISSION	SECOND SUB. 35% COMPLETE
SUB. DATE	4/26/2010
DRAWING TITLE	ELECTRICAL POWER
FILE NAME	EP-102-IM000090
FLOOR NO.	PENTHOUSE ROOF
DRAWN BY	JAK DATE DRAFTED: 4/22/10
CHECKED BY	ARH SHEET SIZE: 30 X 42
DRAWING NO.	EP 1 02
DISCIPLINE	SHEET TYPE SEQUENCE
SHEET	4 OF 5

DESIGN NAME: WIND/PV ELECTRICAL SYSTEM
DRAWING NO.: EP-601-IM000000
DATE: 4/22/2010
TIME: 10:31 AM
PLOT DATE/TIME: 4/22/2010 5:09 PM
PLOT BY: JAK



1 WIND/PV SYSTEM ELECTRICAL ONE-LINE DIAGRAM
SCALE: A.

GENERAL NOTES:

- BASE BID TO INCLUDE SELF BALLASTED PHOTOVOLTAIC PANELS MOUNTED FLAT ON ROOF TO ALLOW WINDOW WASHING EQUIPMENT CABLE SUPPORTS TO BE ROUTED OVER PANELS TO WINDOW WASHING ANCHORING SYSTEM AS REQUIRED. SYSTEM TO INCLUDE PHOTOVOLTAIC PANELS, INVERTERS, METERS, DISCONNECTS, CONDUIT, WIRES AND CABLES REQUIRED TO CONNECT SYSTEM TO EXISTING ELECTRICAL DISTRIBUTION SYSTEM
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- EXACT QUANTITY OF PHOTOVOLTAIC TILES, PANELS AND MEMBRANES TO BE DETERMINED BY MANUFACTURER BASED ON AVAILABLE ROOF SPACE AS SHOWN ON FLOOR AND ROOF PLANS.

KEYED NOTES:

NOTE 1

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CERTIFICATIONS	
KEY PLAN	
REVISION NOTES	
GRAPHIC SCALE	
CONTRACT INFORMATION	A/E CON. NO. GS06P04GYD0003 A/E TASK NO. 67 MODIFICATION NO. 3 CONS. CONTR. CONS. WORK PRIME A/E SUB A/E CONSTR. CON.
BUILDING INFORMATION	NAME ROBERT A. YOUNG FED. BLDG. STREET 1222 SPRUCE STREET CITY/ST./ZIP ST. LOUIS, MO 63103 BUILDING NO. MO0106ZZ OTHER BUILDING NOS. FACILITY CODE
PROJECT INFORMATION	PROJECT TITLE RAY ARRA MECHANICAL PROJECT DESCRIPTION WIND / PV PACKAGE PROJECT NO. IM000090 GSA PM DENISE RYERKERR SUBMISSION SECOND SUB. 35% COMPLETE SUB. DATE 4/26/2010
DRAWING INFORMATION	DRAWING TITLE ELECTRICAL ONE-LINE FILE NAME EP-601-IM000090 FLOOR NO. NA DRAWN BY JAK DATE DRAFTED: 4/22/10 CHECKED BY ARH SHEET SIZE: 30 X 42 DRAWING NO. EP 6 01 DISCIPLINE SHEET TYPE SEQUENCE SHEET 5 OF 5